DOCUMENT RESUME

ED 234 973 RC 014 377

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TITLE Research Findings on K-12 and 1-12 Rural School Districts in the United States.
PUB DATE 16 Oct 83
NOTE 17p.; Paper presented at the Annual Meeting of the Rural Education Association (75th, Manhattan, KS, October 16-18, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Administrator Characteristics; Administrator Role; Comparative Analysis; Curriculum Development; Educational Finance; Elementary Secondary Education; Inservice Teacher Education; National Surveys; Problems; *Rural Education; *Rural Schools; Salaries; School Activities; *School Districts; *School District Size; *Small Schools; Student Problems; Superintendents; Teacher Recruitment

ABSTRACT

A 1982-83 study conducted at Brigham Young University compared K-12 rural schools with fewer than 300 students to those with enrollments of 301-900, using information from districts in 45 states. Of the 15,601 American K-12/1-12 public school systems, 1,414 (9.1%) were identified as enrolling 300 students or fewer, and 2,711 (17.4%) enrolled 301-900 students. A proportional random sample of 308 districts was selected from the smaller districts; a simple random sample of 508 districts was selected from larger districts. A questionnaire on the rural school district, school superintendent, teachers, programs, and student performance, mailed to school superintendents in both samples, was returned from 244 districts in the first sample (79.2%) and 398 in the second (78.3%). Superintendents in both samples reported that their number one challenge was securing adequate school finances, followed by the need to improve curriculum. Superintendents in the smaller districts reported that securing teachers was their third-ranked problem; those from larger districts ranked providing meaningful inservice instruction third. Both samples found difficulty in locating qualified math and science teachers their most significant staff recruitment problem. Both cited lack of motivation/goals/direction as more serious student problems than drugs, vandalism, sex, alcoholism, or cheating. Comparative research findings and state data are given in tables. (MH)

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RESEARCH FINDINGS ON K-12 AND 1-12 RURAL SCHOOL DISTRICTS IN THE UNITED STATES

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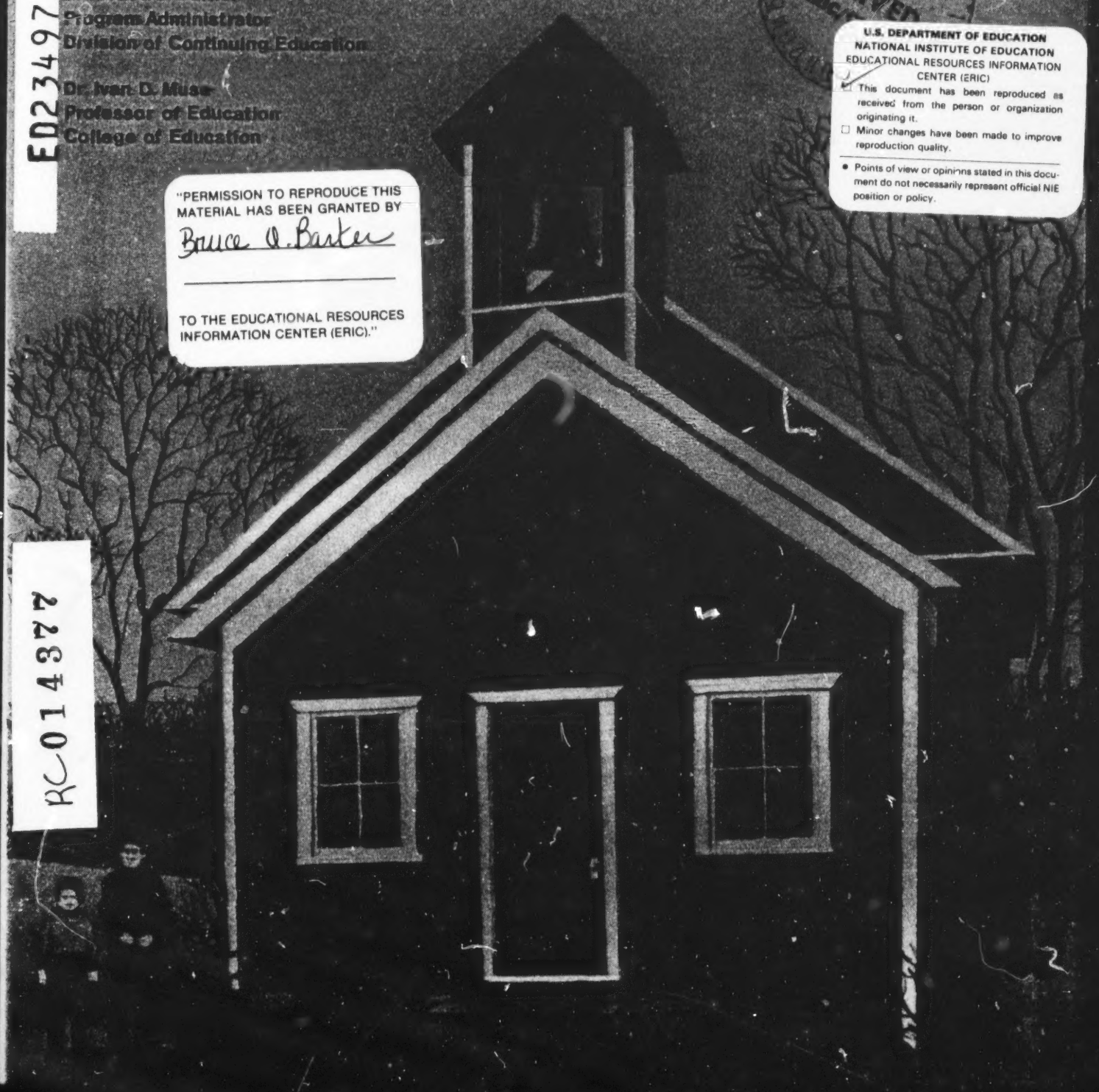

RESEARCH FINDING ON K-12 AND 1-12 RURAL SCHOOL DISTRICTS IN THE UNITED STATES

Paper Presented at 75th Annual Conference
Rural Education Association
Manhattan, Kansas
October 16-18, 1983

by
Bruce O. Barker and Ivan D. Muse

INTRODUCTION

The need for research among America's small/rural schools has been clearly documented by many scholars in education (Tamblyn, 1977; Sher, 1978; Carmichael, 1980). Nachtigal (1979) has stated that among studies needed are descriptive reports of K-12 rural schools with fewer than 300 students and those with enrollments between 300 to 1,000 students. The purpose of this paper is to present research findings from a descriptive study of K-12 and 1-12 small/rural school systems in America which enroll 300 students or less and those which enroll 301 to 900 students (Barker, 1983). The study, conducted at Brigham Young University during the 1982-83 academic year, was endorsed by the National Rural Education Association and included participation from school districts in 45 different states.

METHODOLOGY

Two separate samples were identified in this study. K-12/1-12 districts with student bodies of 300 students or less and those with 301-900 students. The Education Directory, Fall 1980: Local Education Agencies, published by the National Center for Education Statistics, was used as a reference from which a hand count was made of all K-12/1-12 public school districts which enrolled students within the two sample categories. Of the 15,601 operating public school systems in America, 1,414 (9.1 percent) were identified as

either K-12 or 1-12 systems enrolling 300 students or less and 2,711 (17.4 percent) were K-12 or 1-12 systems with 301-900 students each.

A proportional random sample of 308 K-12/1-12 districts, stratified by state, was selected from the study population of 1,414 districts. Thirty-six states were included in this sample. Fourteen states did not have operating K-12/1-12 districts with fewer than 300 students and these were not included (Alabama, Connecticut, Delaware, Florida, Hawaii, Louisiana, Maryland, Massachusetts, Montana, New Jersey, North Carolina, South Carolina, Pennsylvania, and West Virginia). The 308 districts selected for this sample represented 21.8 percent of the study population.

For the 2,711 districts enrolling 301-900 students, a simple random sample of 508 districts was selected. Each state was represented which had at least one K-12 or 1-12 district of 301-900 students. Six states did not report an operating K-12 or 1-12 district of 301-900 students (Delaware, Florida, Louisiana, Maryland, Rhode Island, and West Virginia). For these states, their smallest K-12/1-12 district was selected. Other than the smallest district from each of these six states, and those states which had only one qualifying district, each school district in the study population was assigned a different number and those selected were chosen by referring to a table of random numbers. Neither Hawaii nor Montana reported operating K-12 or 1-12 districts of any size. These two states were not included in the sampling. The 508 districts selected for this sample represented 18.7 percent of the study population.

INSTRUMENT

A self-administered questionnaire, designed by the researchers and national leaders of the Rural Education Association, was mailed to school superintendents in each of the two samples. Completed questionnaires were

returned from 244 districts in the stratified random sample, representing a 79.2 percent return (see Table 1) and 398 districts in the simple random sample, representing a 78.3 percent return (see Table 2). The questionnaire posed questions related to the rural district, the school superintendent, the teachers, school programs, and student performance.

FINDINGS

The 1,414 districts of 300 students or less represented 9.1 percent of the 15,601 public school districts in the United States and enrolled a total of 263,724 pupils or .65 percent of the total U.S. public school student body. The 2,711 districts of 301-900 students accounted for 17.4 percent of the operating total and enrolled 1,587,203 pupils or 3.9 percent of the total student body (Barker, 1983).

The major findings of this study are reported in Table 3, which shows a comparison of research findings between the two samples.

In addition to the comparative findings in Table 3, superintendents in both samples reported that the number one challenge they faced was that of securing adequate school finances, followed by the need to improve the school curriculum. Superintendents in the smaller districts reported that securing teachers was the third ranked problem. Those in the larger districts reported the third ranked problem to be that of providing meaningful inservice instruction. Findings from both samples revealed that the difficulty of locating qualified teachers in the maths and sciences was the most significant staff recruitment problem.

With reference to problems involving students, superintendents in each sample cited lack of motivation and lack of educational goals and direction as more serious problems for their students than either drugs, vandalism, sex, alcoholism, or cheating in school.

Superintendents in the smaller districts indicated that the most widely used practice for expanding learning opportunities for their students was the cooperative sharing of personnel and/or equipment with a neighboring district(s). The use of regional vocation and education service centers was most frequently cited by the larger districts. Other resources cited included traveling teacher(s), computer-assisted instruction, television, video taped instruction, and correspondence courses.

CONCLUSION

This study attempted to gather comparative data between K-12/1-12 districts of 300 students or less and those between 301-900 students. The major differences noted were: (1) the salary levels paid to superintendents, teachers, and principals were higher in the larger districts; (2) the smaller districts reported a higher percent receiving state aid or funding for small schools; (3) for districts of 300 students or less, the average dollar amount of the last bond issue was less than half that reported for the larger districts; (4) fewer education support services and/or specialists are available in the districts of 300 students or less; (5) the teacher/student ratio is lower in the smaller districts, yet a higher percentage of secondary teachers in these districts are teaching outside their area(s) of certification and these teachers typically have four different subject preparations each day compared to three for teachers in the larger districts; (6) student performance on the ACT Exam was significantly higher in the smaller districts; (7) students in the smaller districts have less access to regional vocation and education service centers; (8) fewer extra-curricular sports are provided in the smaller districts; and (9) curricular offerings in the smaller districts are more limited.

During the time that this study was underway, support and interest was

provided by the national president of the Rural Education Association (REA) and other national officers of that organization. Some 26 members of the REA, in as many states, personally contacted superintendents selected for the two samples in their state and encouraged them to fill out the questionnaire and return it to the researchers. Such assistance was definitely helpful in securing an almost 80 percent nationwide response from a large sample on a lengthly questionnaire. It is also indicative of the concern and interest which rural educators have in this country to share information about rural schools and to provide the best education possible for rural students.

Many rural educators, from across the nation, have written and expressed interest in the research results of this study. This concern has confirmed with the researchers the value and strength of our country's rural educators and our rural schools. Without question, one of America's greatest resources is her rural schools and those professionals who are teaching and training our rural youth.

TABLE 1

NUMBER OF OPERATING K-12 AND 1-12 PUBLIC SCHOOL DISTRICTS, LISTED BY STATE, ENROLLING 300 STUDENTS OR LESS; PERCENT OF REPRESENTATION WITHIN EACH STATE FOR TOTAL STUDY POPULATION (1,414); SIZE OF SAMPLE SELECTED IN EACH STATE; NUMBER OF QUESTIONNAIRES RETURNED FROM EACH STATE; AND PERCENT RETURNED.

State	Districts	Percent of Population	Sample	Number Returned	Percent Return
Alabama	0	0	0	--	--
Alaska	14	.99	3	2	67
Arizona	5	.35	1	0	0
Arkansas	72	5.09	15	10	67
California	12	.85	3	2	67
Colorado	60	4.24	13	13	100
Connecticut	0	0	0	--	--
Delaware	0	0	0	--	--
Florida	0	0	0	--	--
Georgia	1	.07	1	0	0
Hawaii	0	0	0	--	--
Idaho	16	1.13	4	4	100
Illinois	21	1.49	4	3	75
Indiana	2	.14	1	0	0
Iowa	60	4.24	13	12	93
Kansas	55	3.89	12	12	100
Kentucky	1	.07	1	0	0
Louisiana	0	0	0	--	--
Maine	8	.57	2	1	50
Maryland	0	0	0	--	--
Massachusetts	0	0	0	--	--
Michigan	19	1.34	4	4	100
Minnesota	60	4.24	13	11	85
Mississippi	1	.07	1	1	100
Missouri	72	5.09	16	16	100
Montana	0	0		0	--
Nebraska	150	10.61	32	28	88
Nevada	2	.14	1	1	100
New Hampshire	3	.21	1	1	100

TABLE 1 (continued)

State	Districts	Percent of Population	Sample	Number Returned	Percent Return
New Jersey	0	0	0	--	--
New Mexico	19	1.34	4	3	75
New York	17	1.20	3	2	67
North Carolina	0	0	0	--	--
North Dakota	141	9.97	30	23	77
Ohio	2	.14	1	0	0
Oklahoma	124	8.76	25	17	68
Oregon	33	2.33	7	7	100
Pennsylvania	0	0	0	--	--
Rhode Island	1	.07	1	1	100
South Carolina	0	0	0	--	--
South Dakota	78	5.52	17	14	82
Tennessee	1	.07	1	1	100
Texas	299	21.15	63	41	65
Utah	2	.14	1	1	100
Vermont	5	.35	1	0	0
Virginia	1	.07	1	1	100
Washington	44	3.11	9	9	100
West Virginia	0	0	0	--	--
Wisconsin	10	.70	2	2	100
Wyoming	3	.21	1	1	100
Totals	1,414	99.95	308	244	79.2

TABLE 2

NUMBER OF OPERATING K-12 AND 1-12 PUBLIC SCHOOL DISTRICTS ENROLLING 301-900 STUDENTS, LISTED BY STATE; SIZE OF SAMPLE SELECTED IN EACH STATE; NUMBER OF QUESTIONNAIRES RETURNED; AND PERCENT RETURNED.

State	Districts	Sample	Number Returned	Pct. Return
Alabama	1	1	1	100
Alaska	20	5	3	60
Arizona	16	4	4	100
Arkansas	166	25	22	88
California	25	5	4	80
Colorado	45	6	6	100
Connecticut	2	1	0	0
Delaware*	0	1	1	100
Florida*	0	1	1	100
Georgia	8	4	3	75
Hawaii	0	0	--	--
Idaho	37	9	9	100
Illinois	200	32	27	84
Indiana	26	6	6	100
Iowa	247	32	29	91
Kansas	153	24	23	92
Kentucky	21	4	4	100
Louisiana*	0	1	1	100
Maine	21	4	4	100
Maryland*	0	1	0	0
Massachusetts	6	2	2	100
Michigan	91	12	9	75
Minnesota	191	26	20	77
Mississippi	8	2	2	100
Missouri	190	43	28	65
Montana	0	0	--	--
Nebraska	99	18	16	89
Nevada	1	1	1	100
New Hampshire	20	5	3	60
New Jersey	1	1	0	0
New Mexico	24	6	4	67
New York	129	26	18	69
North Carolina	2	1	1	100
North Dakota	75	9	6	67
Ohio	65	7	5	71
Oklahoma	110	44	28	64
Oregon	33	6	6	100
Pennsylvania	17	4	3	75
Rhode Island*	0	1	0	0
South Carolina	3	2	1	50
South Dakota	72	12	7	58
Tennessee	11	1	0	0

TABLE 2 (continued)

State	Districts	Sample	Number Returned	Pct. Return
Texas	328	61	43	70
Utah	7	2	2	100
Vermont	17	4	4	100
Virginia	8	1	0	0
Washington	3	16	15	94
West Virginia*	0	1	1	100
Wisconsin	135	24	21	88
Wyoming	17	4	4	100
Totals	2,711	508	398	78.3

*These states did not have operating K-12 or 1-12 districts which enrolled 301-900 students or less. The smallest K-12 or 1-12 district in each was selected for inclusion in the sample.

TABLE 3

A COMPARISON OF RESEARCH FINDINGS BETWEEN K-12/1-12 PUBLIC SCHOOL DISTRICTS ENROLLING 300 STUDENTS OR LESS AND THOSE ENROLLING 301-900 STUDENTS, 1983.

Variable	300 or Less	301 to 900
The Rural District		
1. Average number of schools per district	2.0	2.6
2. Average student enrollment per school	94.6	225.9
3. Average student enrollment per district	198.0	583.1
4. Percent of students bussed to school	66.6	63.5
5. Mean farthest round distance (miles) students bussed to school	38.8	37.4
6. Percent of districts reporting state funding or aid for small districts	30.9	20.1
7. Percent of districts reporting passage of last bonding	91.3	85.3
8. Average amount of most recent bonding	$403,715	$886,100
9. Percent of districts indicating enrollment trend decrease	38.0	35.1
The Superintendent		
1. Percent of superintendents holding master's as highest degree	62.1	50.3
2. Percent of superintendents holding Ed. Specialist as highest degree	26.7	34.4
3. Percent of superintendents holding doctorate	9.8	15.1
4. Percent of superintendents reporting annual salaries in excess of $35,000	19.8	48.2
5. Average tenure of superintendent (years)	5.5	6.9
6. Percent of superintendents reporting average work week in excess of 51 hours	53.2	54.8
7. Average age of superintendent (years)	46.6	47.4
The Teachers		
1. Average number of full-time elementary teachers in district	7.2	18.7
2. Average number of full-time secondary teachers in district	9.5	19.5
3. Average teacher/student ratio	1:11.8	1:15.3
4. Mean teacher beginning annual salary	$12,256	$12,653
5. Mean teacher top annual salary	$19,263	$21,260

TABLE 3 (continued)

Variable	300 or Less	301 to 900
6. Current average annual salary for teachers	$15,502	$16,905
7. Average beginning salary elementary principal	$18,252	$21,844
8. Average beginning salary secondary principal	$19,864	$24,045
9. Mean number of "steps" in salary schedule	13.6	15.0
10. Average number of different subject preparations for secondary teachers	4.1	3.3
11. Percent of secondary teachers teaching one or more classes outside their subject(s) area of certification	13.8	7.4
12. Percent of teacher turnover for 1981-82	12.7	7.4
Student Performance		
1. Mean number of graduating seniors per district	17.0	45.1
2. Percent of districts reporting student performance on last national test of achievement administered in district as either "close to" or "above" the national average	93.2	96.1
3. Percent of graduating seniors (1981-82) recognized as National Merit Exam finalists	.99	.84
4. Percent of graduating seniors (1981-82) scoring 25+ on American College Test (ACT exam)	11.8	6.6
5. Percent of graduating seniors (1981-82) scoring 1100+ on Scholastic Aptitude Test (SAT exam)	2.0	2.7
6. Cumulative: Percent graduating seniors recognized as National Merit Exam finalists or scoring 25+ on ACT Exam or 1100+ on SAT Exam.	14.9	10.1
7. Percent of graduating seniors (1981-82) planning on attending college	39.8	37.8
8. Percent of graduating seniors (1981-82) attending technical school	15.1	13.5
School Programs		
1. Percent of districts employing special education personnel	86.3	86.7
2. Percent of districts having a school counselor	67.9	86.3
3. Percent of districts having a school psychologist	27.4	37.7
4. Percent of districts having vocational education director	15.0	26.2
5. Percent of districts having a school nurse	35.9	50.6
6. Percent of districts having a school librarian	71.4	86.5
7. Percent of districts having adult education director	6.4	9.1
8. Percent of districts having community education director	3.4	10.4

TABLE 3 (continued)

Variable	300 or Less	301 to 900
9. Percent of districts with basketball program	100	100
10. Percent of districts with football program	57.1	76.7
11. Percent of districts with baseball program	40.4	64.6
12. Percent of districts with softball program	30.4	41.3
13. Percent of districts with volleyball program	58.8	70.0
14. Percent of districts with cross country track program	15.4	28.2
15. Percent of districts with soccer program	5.0	8.2
16. Percent of districts with wrestling program	8.3	35.6
17. Percent of districts with track and field program	79.2	78.5
18. Percent of districts with golf program	13.8	27.7
19. Percent of districts with tennis program	13.8	17.9
20. Percent of districts with swimming program	1.7	4.1
21. Percent of districts with gymnastics program	3.8	7.2
22. Percent of districts offering Spanish	23.6	52.2
23. Percent of districts offering German	9.1	10.1
24. Percent of districts offering French	11.3	23.3
25. Percent of districts offering Calculus	26.8	41.1
26. Percent of districts offering Chemistry	71.3	84.0
27. Percent of districts offering Computer Science	51.8	65.1
28. Percent of districts offering Electronics	10.0	14.7
29. Percent of districts offering Physics	57.3	73.6
30. Percent of districts offering Vocational Agriculture	51.8	69.5

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